E-155 IMPACT OF PRE-TREATMENT CEREBRAL MICROBLEEDS ON HEMORRHAGIC TRANSFORMATION FOLLOWING SUCCESSFUL RECANALIZATION BY ENDOVASCULAR TREATMENT IN PATIENT WITH ACUTE ISCHEMIC DUE TO LARGE ARTERY OCCLUSION

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Background and Purpose We analyzed the association between pretreatment cerebral microbleeds (CMBs) and hemorrhagic transformation (HT) after successful recanalization by endovascular treatment (EVT) in patients with acute ischemic stroke due to large vessel occlusion (LVO).

Methods A total of 116 acute ischemic stroke patients successfully recanalized by EVT for emergent LVO were enrolled in this prospective cohort study. CMBs and hemorrhagic transformation on T2*-MRI using a validated scale were rated by an experienced neuroradiologist. The primary outcome was hemorrhagic transformation after EVT. We investigated association of CMB presence and burden with HT. The secondary outcome was defined as poor functional outcome with modified Rankin Scale scores at 3 months of 3 to 6.

Results Among 116 patients (mean age 66.2±14.0, male 78%), 18 (15.7%) had CMBs and 52 (45.2%) had HT. There was statistically significant association between the presence of CMB and HT after EVT in patients with successful recanalization (77.8% versus 3.1%, P=0.003). The presence or number of CMBs was not associated with poor functional outcomes.

Conclusions These results indicate that the presence of CMBs were related to HT after EVT. However, there is no impact of pre-treatment of CMBs on poor functional outcome in patients with successful recanalization by EVT.

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E-156 RESCUE STENTING WITH SELF-EXPANDABLE AND BALLOON-MOUNTED STENTS FOR ACUTE LARGE VESSEL STROKE AFTER FAILED MECHANICAL THROMBECTOMY PRESUMABLE DUE TO UNDERLYING INTRACRANIAL ATHEROSCLEROSIS: SYSTEMATIC REVIEW

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Introduction Underlying intracranial atherosclerosis (ICAS) has been reported as one of the main causes of failure to revascularization after mechanical thrombectomy (MT) in acute large vessel ischemic stroke. Rescue therapy with permanent stenting has some favorable evidence from retrospective databases and prospective cohorts. Self-expandable (SES) and balloon-mounted stents (BMS) had been used as rescue therapy in this setting.

Objective To assess the benefit and safety at 90 days of acute rescue intracranial stenting in patients who failed mechanical thrombectomy, presumable due to underlying intracranial atherosclerosis with a subgroup analysis based on the type of stent used.

Methods A systematic review in accordance with PRISMA guidelines was conducted. Searches were conducted using the PubMed/Medline, Scopus, Embase, and Cochran databases up to March 12, 2022, including randomized clinical trials (RCT) and observational studies describing 90 days outcomes in large vessel stroke who underwent MT with refractory occlusion presumable due to underlying ICAS, type of stent used was clearly described on the publication. Our primary outcome was functional independence, defined as modified Rankin Scale score (mRS): 0–2. Safety outcomes were 90 days mortality, symptomatic intracranial hemorrhage (sICH) and all ICH. We performed a meta-analysis using the random effect model, Freeman-Tukey double arc sine transformation was used to stabilize the proportion variances. Heterogeneity was evaluated using the I2 (2) and considered high if over 70%.

Results Seventeen studies (n=974) were included for systematic review. Fifteen studies included patients who received any stent (n=527), and eight studies did not used any stent (n=447). Thirteen studies used SES (n=465); two studies used BMS (n=62). Pooled estimate proportion of functional independence at 90 days among patients who received any stent was achieved in 50.1% (95% IC: 41.1–59.1, 12:73.3%) and 25.0% (95% IC: 9.0–46.0, 12: 94.5%) in patients with no stent. Same outcome was present in 51.1% (95% IC: 41.4–60.5, 12:73.3%) and 44.2% (95% IC: 18.6–73.2, 12:55.3%) in patients with SES and BMS, respectively. Mortality at 90 days was 16.1% (95%IC: 10.7–23.5, 12:63.1%) among patients who received any stent and 30.0% (95%IC: 16.0–45.0, 12: 89.3%) with no stent. Symptomatic intracranial hemorrhage (sICH) was 7.9% (95%IC: 5.6–11.1, 12:0%) among patients who received any stent, and 7.0% (95%IC: 2.0–13.0, 12:72.7%) with no stent. All ICH was present in 11.1% (95%IC: 6.6–18.2, 12: 0%) and 18% (95% IC: 12.0–24.0) respectively.

Conclusion Our study shows decent functional independence in patients with acute large vessel stroke who received any rescue stenting after failed mechanical thrombectomy presumable due to underlying intracranial atherosclerosis. The subgroup of patients who received SES presented the higher estimated pooled proportion of functional independence. Mortality, symptomatic intracranial hemorrhage, and all ICH were comparable in all groups. The study is limited by high heterogeneity, and unavailability of studies that directly compared to best medical treatment or a specific type of stent. Rescue stenting should be directly compared with the best medical treatment for failed MT in a randomized trial.